UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,880	03/30/2007	Mikio Hasegawa	135292-0001	5964

35684 7590 05/01/2008

BUTZEL LONG
350 SOUTH MAIN STREET
SUITE 300
ANN ARBOR, MI 48104

EXAMINER	
NICKERSON, JEFFREY L	

ART UNIT	PAPER NUMBER
2142	

NOTIFICATION DATE	DELIVERY MODE
05/01/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patent@butzel.com
boudrie@butzel.com

Office Action Summary	Application No.	Applicant(s)	
	10/579,880	HASEGAWA ET AL.	
	Examiner	Art Unit	
	JEFFREY NICKERSON	2142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 7-9* is/are rejected.

7)☒ Claim(s) *4-6 and 10-16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2007* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *18 May 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to Application No. 10/579,880 filed nationally on 30 March 2007 and internationally on 19 November 2004. Claims 1-16 have been examined.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 44 (Figures 2, 5, and 6) and 131 (Figures 14 and 15).

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show inbound and outbound socket connections as one of ordinary skill in the art would understand them, are displayed in a manner contradictory to the commonly accepted definition, and provide no further indication as to how they should be understood (Figures 8 and 9). See the 35 USC 112 Rejection section below for more information regarding this objection. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the

application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to under 37 CFR 1.72(b) because it contains implied phraseology. The first sentence of the abstract contains the phrase "There is disclosed an arrangement wherein", which falls into the category of implied phraseology, and should be deleted. Correction is required. See MPEP § 608.01(b).

5. The specification is objected to under 37 CFR 1.77(b) because the elements do not follow the preferred format. The following guidelines illustrate the preferred layout for the specification of a utility application. As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections, in the order listed. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if

> the required "Sequence Listing" is not submitted as an electronic document on compact disc).

6. The specification is objected to because it references claim numbers in the description. Since claim numbers and the content of claims are dynamic throughout the prosecution of a patent application, claim numbers should not be referenced in the specification. Claim numbers are referenced in paragraphs [0018] through [0033]. Correction is required.

Claim Objections

7. Claims 4-6 and 10-16 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim can not depend on another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-3 and 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 7, lines 9 and 19 start limitations that refer to inbound and outbound socket connections. It is acknowledged that the applicant is allowed to be their own lexicographer, but this must remain within reason and terms should never be used in direct contradiction to the art accepted terminology. Applicant is using the term "inbound socket connection" to refer to a connection from the analog I/O device to the host computer, and the term "outbound socket connection" to refer to a connection from the host computer to the analog I/O device. The words "inbound" and "outbound", when used in reference to socket connections, are always used from the viewpoint of the computer/machine using the sockets. Therefore, from the analog I/O device's viewpoint (as in the limitation starting on line 9), the analog I/O device will have an inbound socket connection to receive data **from** the host computer's outbound socket connection, and the analog I/O device will have an outbound socket connection **to** the host computer's inbound socket connection. From the host computer's viewpoint (as in the limitation starting on line 19), the host computer will have an inbound socket connection **from** the analog I/O device's outbound socket connection and the host computer will have an outbound socket connection **to** the analog I/O device's inbound socket connection. See Request For Comments 147 for socket polarity, i.e. receive versus send, definitions. Furthermore, socket connections inherently support both inbound and outbound (bidirectional) communication, so it is further unclear what applicant is attempting to claim. For purposes of further examination, the examiner will consider any socket connection that can handle inbound and outbound traffic to meet the limitation.

Regarding claims 2-3 and 8-9, these claims inherit the indefiniteness of their parent independent claim.

Further regarding claims 2 and 8, these claims recite limitations similar to those in claims 1 and 7, where the viewpoint of the socket connections are at the analog I/O device, yet the relationship between inbound and outbound connections are contradictory to whether the connections are to or from the host computer.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (US 2004/0039462 A1), and further in view of Quinton ("An Introduction to Socket Programming", 1997), and Kawai et al (US 6,137,485).

Regarding claim 1, Chen teaches an analog input system that uses an analog signal input terminal (Chen: Figure 2, item 28 depicts analog mic input terminal as an option) to convert an analog signal into a digital signal and send the converted digital signal to a host computer via a network (Chen: Figure 3 depicts the sound card for receiving digital

signals; Figure 7 depicts the wireless mic; Figure 6 depicts a device that handles both input and output analog processing; See also [0021] and abstract), wherein

the analog signal input terminal (Chen: Figure 7, item 29 depicts the mic adapter) comprises:

an analog signal input unit (Chen: Figure 7, item 80 depicts the analog input port);

an A/D converter for converting the analog signal into a digital signal (Chen: Figure 7, item 82);

a network controller for controlling data transmission and reception (Chen: Figure 7, item 86);

a terminal-side connection establishing unit for establishing two connections, that is, an inbound connection and an outbound connection, to and from the host computer (Chen: Figure 7, items 85 and 86; Figure 6, items 78 and 74; See also [0027] which provides for bidirectional communication between the device and the host sound card);

a control signal processing unit for receiving control signals from the host computer (Chen: [0027] provides for receiving control signals from the host computer);

a signal transmitting unit for sending digital signals (Chen: Figure 7, items 85 and 86; Figure 6, items 75 and 78; See also [0027]); and wherein

the host computer comprises at least:

a network adapter for controlling data transmission and reception (Chen: Figure 3, items 46 and 40);

a host-side connection establishing unit for establishing two connections, that is, an inbound connection and an outbound connection to and from the analog signal input terminal (Chen: Figure 3, item 46 depicts a transceiver which inherently transmits and receives; Figure 6 and [0027] provide the remote device can handle inbound and outbound data, providing the host can as well);

a control signal processing unit for sending control signals (Chen: Figure 3, items 44 and 48);

an application processing unit for executing an application and allowing the application to use the said digital signals (Figure 3, items 24 and 30; See also [0018]).

Chen does not teach wherein the connections are with the Internet Protocol using sockets. Nor does Chen teach wherein the control signals are related to at least a start request and a stop request. Nor does Chen teach wherein the digital signals are transmitted based on received control signals. Nor does Chen teach wherein the host computer has an IP connection disconnecting unit for disconnecting the inbound socket connection and the outbound socket connection.

Quinton, in a similar field of endeavor, teaches wherein the connections are over IP and use sockets (Quinton: pg 1, introduction) and wherein the host computer has an IP connection disconnecting unit for disconnecting the inbound socket connection and outbound socket connection (Quinton: pg 11, line 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Quinton for communication with IP sockets. The teachings of Quinton, when implemented in the Chen system, will allow

one of ordinary skill in the art to communicate to the remote devices using IP packets and reading/writing sockets. One of ordinary skill in the art would be motivated to utilize the teachings of Quinton in the Chen system in order to use a widely accepted and compatible standard.

The Chen/Quinton system does not teach wherein the control signals are related to at least a start request and a stop request. Nor does the Chen/Quinton system teach wherein the digital signals are transmitted based on received control signals.

Kawai, in a similar field of endeavor, teaches wherein the control signals are related to at least a start request and a stop request (Kawai: col 11, line 53-65; See also Figures 15A and 15B) and wherein the digital signals (Kawai's video transmission) are transmitted based on received control signals (Kawai: col 11, line 53 – col 12, line 28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Kawai for using control signals. The teachings of Kawai, when implemented in the Chen/Quinton system, will allow one of ordinary skill in the art to control processing and transmission of the remote devices. One of ordinary skill in the art would be motivated to utilize the teachings of Kawai in the Chen/Quinton system in order to manage traffic on the network.

Regarding claim 2, the Chen/Quinton/Kawai system teaches wherein:

the terminal-side IP connection establishing unit in the analog signal input terminal (Quinton: server-side) establishes (accepts) an inbound socket connection (socket connection) to the host computer (Quinton: client) when the terminal-side IP

connection establishing unit detects an outbound socket connection (connect request) from the host computer (Quinton: pgs 8-11 describe typical client/server type socket functions, including listening/detecting a client connection and accepting/binding/establishing the connection).

the host-side IP connection establishing unit in the host computer establishes an outbound socket connection to the analog signal input terminal (This is a limitation in claim 1; Same rejection rationale applies).

Regarding claim 3, the Chen/Quinton/Kawai system teaches wherein the analog signal input terminal is provided with a microphone, an output signal from which is input into the analog signal input unit (Chen: Figure 7, item 28 into item 80).

Regarding claim 7, this claim comprises limitations found within claim 1 and the same rationale of rejection is used, where applicable, and wherein:

the system is an analog output system in which a digital signal is sent from a host computer to an analog signal output terminal through a network and the analog signal output terminal converts the digital signal into an analog signal and then outputs the analog signal (Chen: Figure 5), wherein the analog signal output terminal comprises at least:

a signal receiving unit for receiving digital signals according to the control signals (Chen: Figure 5, items 150 and 154);

a D/A converter for converting the digital signals into analog signals (Chen: Figure 5, items 158);

an output unit for outputting the analog signals (Chen: Figure 5, items 160 and 164); and wherein the host computer comprises at least:

a signal transmitting unit for sending the generated digital signal (Chen: Figure 3, item 46).

Regarding claim 8, this analog signal output system claim comprises limitations corresponding to those found within claim 2 and the same rationale of rejection is used, where applicable.

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (US 2004/0039462 A1), in view of Quinton (“An Introduction to Socket Programming”, 1997) and Kawai et al (US 6,137,485), and in further view of Poon et al ("Performance of buffer-based request-reply scheme for VoD streams over IP networks", 2000).

Regarding claim 9, the Chen/Quinton/Kawai system does not teach wherein:

the analog signal output terminal has a buffer area and a data requesting unit, the data requesting unit sending a data transmission request signal according to a storage capacity of the buffer area; and

the signal transmitting unit in the host computer sends a digital signal according to the transmission request signal.

Poon, in a similar field of endeavor teaches wherein the analog signal output terminal has a buffer area and a data requesting unit, the data requesting unit sending a data transmission request signal according to a storage capacity of the buffer area (Poon: pg 230, section 2); and

the signal transmitting unit in the host computer sends a digital signal according to the transmission request signal (Poon: pg 230, section 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Poon for using a buffer-based client pull method. The teachings of Poon, when implemented in the Chen/Quinton/Kawai system, will allow one of ordinary skill in the art to control the amount and rate of content being sent to the remote devices from the host computer. One of ordinary skill in the art would be motivated to utilize the teachings of Poon in the Chen/Quinton/Kawai system in order to prevent receiver buffer overflow or underflow, which would result in corrupt data or delay in media playback.

Cited Pertinent Prior Art

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Shdema et al (US 2002/0072816 A1) discloses a system with networked speakers.

b. Ng et al (US 2004/0254661 A1) discloses a system with an analog I/O device that pulls and pushes media to storage across a wireless link.

c. Aull et al (US 2005/0044372 A1) disclose a system for bonding a wireless device to a host computer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY NICKERSON whose telephone number is (571)270-3631. The examiner can normally be reached on M-Th, 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. N./
Jeffrey Nickerson
Examiner, Art Unit 2142

/Andrew Caldwell/
Supervisory Patent Examiner, Art Unit 2142